

of the river, as has happened in crates moored at Fairport, Iowa, and at New Boston, Ill.

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**FLORIDA WEST COAST LIGUUS.**

BY CHARLES TORREY SIMPSON.

In the April, 1921, number of the NAUTILUS, Mr. M. G. Miller states that Capt. W. D. Collier, long a resident of Key Marco, brought tree snails from Middle Cape Sable and "planted" them at Caxambas, Goodland Point, and Marco, all on Key Marco. This was done forty-eight years ago and there were no *Liguus* snails on Marco previous to this, but they multiplied and spread rapidly.

As a matter of fact there have been found no less than four subspecies of *Liguus* belonging to two species, and one species of *Oxystyla* in the Marco region and for some forty miles southeast of it. *Liguus fasciatus roseatus* has been found on Marco Key, Horr's Island, near it, at Gomez Old Place, ten miles southeast, at Caxambas, and at Chokoloskee farther down the coast. The form of *Liguus* which I have called *lineolatus* has been found at several places on Marco Key, Horr's Island, Gomez Old Place, Russell's Key, Turner's River, Caxambas and Chokoloskee. *Liguus fasciatus castaneo-zonatus* has been found at Rabbit Key, just below Chokoloskee, and on the island of the latter name, but nowhere to the northwest of these places, so far as I know. *Liguus crenatus marmoratus*, the "black snail", was obtained by Mr. Clarence B. Moore, who got it from a Mr. C. G. McKinney from land which he cleared somewhere near Chokoloskee, according to Pilsbry in his "Study of the *Liguus* of Florida," page 453. Some five years ago I visited Chokoloskee and was taken by a resident to the island where he said the black snails which Mr. Moore obtained were found. The hammock had been cleared but diligent search brought to light some fragments and three dead, badly-faded specimens, one of which is *marmoratus*, I believe. *Oxystyla floridensis* has been

found at Chokoloskee, its northernmost limit, Pavillion Key and Seminole Point.

Now then, what I would like to know is if Capt. Collier brought all these forms of *Liguus* and *Oxystyla* from Middle Cape Sable and distributed them in the various localities on the west coast I have mentioned. Forms of most of them have actually been found on the Middle Cape, the *Oxystyla*, *Liguus fasciatus roasatus*, *L. castaneozonatus*, *L. crenatus marmoratus*, and a couple of other forms of *crenatus* which it seems he did not bring, or if he did they never became established. How did it come that the *Oxystyla* only is found as far north as Chokoloskee, that *castaneozonatus* is only known from this locality and Rabbit Key? Why did he carry *marmoratus* to a key four miles from Chokoloskee and not put it on the trees of the latter island — why didn't he take all the forms and plant them on Marco Key?

As a matter of fact I have never found any snail on Middle Cape Sable which is really very close to any of these upper west coast forms. The *castaneozonatus* are a little differently marked; the *marmoratus* I have from there is of a different pattern from the Chokoloskee shells and something like a single dead specimen I obtained on Key Vaca. I never found during several visits to the Middle Cape anything that could certainly be referred to *lineolatus*. While Capt. Collier may have brought tree snails from Middle Cape Sable and planted them on or around Marco, it is doubtless true that several forms of *Liguus* and the great *Oxystyla* crossed from the Upper Florida Keys to the southwest coast of the mainland of Florida over a now destroyed land bridge, that this migration was probably made many thousands of years ago and that they reached the Chokoloskee, Marco region after the aborigines had built and abandoned the shell mounds, that they made part of their migrations to the region of their most northern distribution from island to island by water, on the trees they lived on.

This subject of the geographical distribution of the *Liguus* and *Oxystylas* in Florida and the manner in which they migrate will be discussed later in a separate paper. As to the

blue tree snails of the southwest coast, I obtained several of them from residents of Chokoloskee. These were *Oxystyla floridensis* pure and simple, and they had been boiled in water containing a little indigo. We made a number of specimens of this new species aboard the boat in the same way and they were just as nice as those sold by the natives. This receipt is absolutely free to anyone desiring to make new species.

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**NEW FORMS OF PLEISTOCENE MOLLUSKS FROM ILLINOIS.**

BY FRANK C. BAKER.\*

A recent examination of Pleistocene material from Grundy County, Illinois, submitted by Mr. Harold E. Culver, of the Illinois State Geological Survey, reveals several new forms of mollusks which seem to need recognition. Upwards of twenty species and varieties occur in the marl deposit, which is post-Wisconsin in age.

**AMNICOLA LUSTRICA GELIDA n. var.**

Shell differing from *lustrica* in being narrower, with more convex whorls, more deeply impressed sutures, a smaller, rounder aperture, the lip of which is usually thickened within. There are six full whorls in adult individuals.

Length, 4.25; diameter, 2.25; aperture length, 1.25; width, 1.0 mm. Topotype, Collection Museum of Natural History, U. of I., No. P926.

Length, 4.50; diameter, 2.30; aperture length, 1.40; width, 1.0 mm. Paratype. Museum No. P927.

Length, 4.0; diameter, 2.50; aperture length, 1.50; width, 1.10 mm. Paratype. Museum No. P927.

Types from near Morris, Grundy County, Illinois, in marl deposit.

This small *Amnicola* is one of the most abundant species in Pleistocene deposits, and seems to be widely distributed,

\* Contribution from the Museum of Natural History, University of Illinois, No. 16.